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NIH Toolbox Walking Speed (4-Meter Walk Gait Speed Test)

Availability:	The Instrument is Freely Available Here: NIH Toolbox Walking Speed
Classification:	Supplemental - Highly Recommended: Stroke (based on study type, disease stage and disease type)
Short Description of Instrument:	<p><u>Purpose</u> Walking speed is an indicator of function for detection of mobility impairments, risk of falls and prediction of morbidity and mortality.</p> <p><u>Overview</u> Walking speed has been chosen by a panel of experts as the standardized assessment to measure locomotion for the motor function domain of the NIH Toolbox. It has robust psychometric properties, correlates with functional ability, and predicts future health status, functional decline, discharge locations and mortality.</p> <p>Walking speed is assessed in meters per second. Walking speeds indicate the levels of impairment and functional levels of walking. Less than 0.4m/sec reflects severe gait impairment or household ambulation, 0.4m/sec to 0.8m/sec indicates moderate gait impairment or limited community ambulation and greater than 0.8 m/sec reflects mild impairment and ability to walk in the community. Improvement in functional levels is associated with improved activities of daily living (ADLs)/ Instrumental ADLs (IADLs) and quality of life.</p> <p><u>Time</u> Assessment takes approximately 2 to 5 minutes.</p> <p><u>Scoring</u> Start your patient at the beginning of a 6 meter line.</p> <p>Ask patient to walk “at a comfortable pace” to the end of the line - “Walk at a comfortable pace as if you are walking in the park”. Allow participant to accelerate 1-meter and decelerate 1-meter.</p> <p>Time during the central 4 meters.</p> <p>Use a stopwatch to time from when the patient’s leading limb crosses the test line and until the leading limb crosses the end test distance line.</p> <p>Comfortable walking speed is time to complete 4 meters, reported in m/sec (4 meters/time to complete that distance).</p> <p><u>Psychometric Properties</u> Self selected walking speed measurement is reliable, valid, and sensitive to change.</p> <p><u>Other Important Notes</u> Walking speed is an easily accessible measuring tool that is an important objective measure of patient’s functional status and highly predictive of morbidity, mortality and health care utilization and is clinically interpretable.</p>

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References:	<p>Abellan van Kan G, Rolland Y, Andrieu S, Bauer J, Beauchet O, Bonnefoy M, Cesari M, Donini LM, Gillette Guyonnet S, Inzitari M, Nourhashemi F, Onder G, Ritz P, Salva A, Visser M, Vellas B. Gait speed at usual pace as a predictor of adverse outcomes in community-dwelling older people an International Academy on Nutrition and Aging (IANA) Task Force. <i>Nutr Health Aging</i>. 2009 Dec; 13(10):881-9.</p> <p>Fritz S, Lusardi M. White Paper: "Walking Speed: the Sixth Vital Sign". <i>J Geriatr Phys Ther</i>. 2009; 32(2):2-5.</p> <p>Guralnik JM, Ferrucci L, Pieper CF, Leveille SG, Markides KS, Ostir GV, Studenski S, Berkman LF, Wallace RB. Lower extremity function and subsequent disability: consistency across studies, predictive models, and value of gait speed alone compared with the short physical performance battery. <i>J Gerontol A Biol Sci Med Sci</i> 2000; 55(4):M221-31.</p> <p>Perry J, Garrett M, Gronley JK, Mulroy SJ. Classification of walking handicap in the stroke population. <i>Stroke</i> 1995; 26(6):982-9.</p> <p>Richards CL, Olney SJ. Hemiparetic gait following stroke. Part II: Recovery and physical therapy. <i>Gait & Posture</i> 1996(4):149-162.</p> <p>Schmid A, Duncan PW, Studenski S, Lai SM, Richards L, Perera S, Wu SS. Improvements in speed-based gait classifications are meaningful. <i>Stroke</i> 2007; 38(7):2096-100.</p> <p>Steffen TM, Hacker TA, Mollinger L. Age- and gender-related test performance in community-dwelling elderly people: Six-Minute Walk Test, Berg Balance Scale, Timed Up & Go Test, and gait speeds. <i>Phys Ther</i> 2002; 82(2):128-37.</p> <p>Van Iersel MB, Munneke M, Esselink RA, Benraad CE, Olde Rikkert MG. Gait velocity and the Timed-Up-and-Go test were sensitive to changes in mobility in frail elderly patients. <i>J Clin Epidemiol</i> 2008; 61(2):186-91.</p>
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